United States Department of Agriculture

Natural Resources Conservation Service
P.O. Box 2890
Washington, D.C. 20013

Weekly Water and Climate Update

Thursday, March 5, 2015

NRCS Snow Survey and Water Supply Forecasting Photo Contest

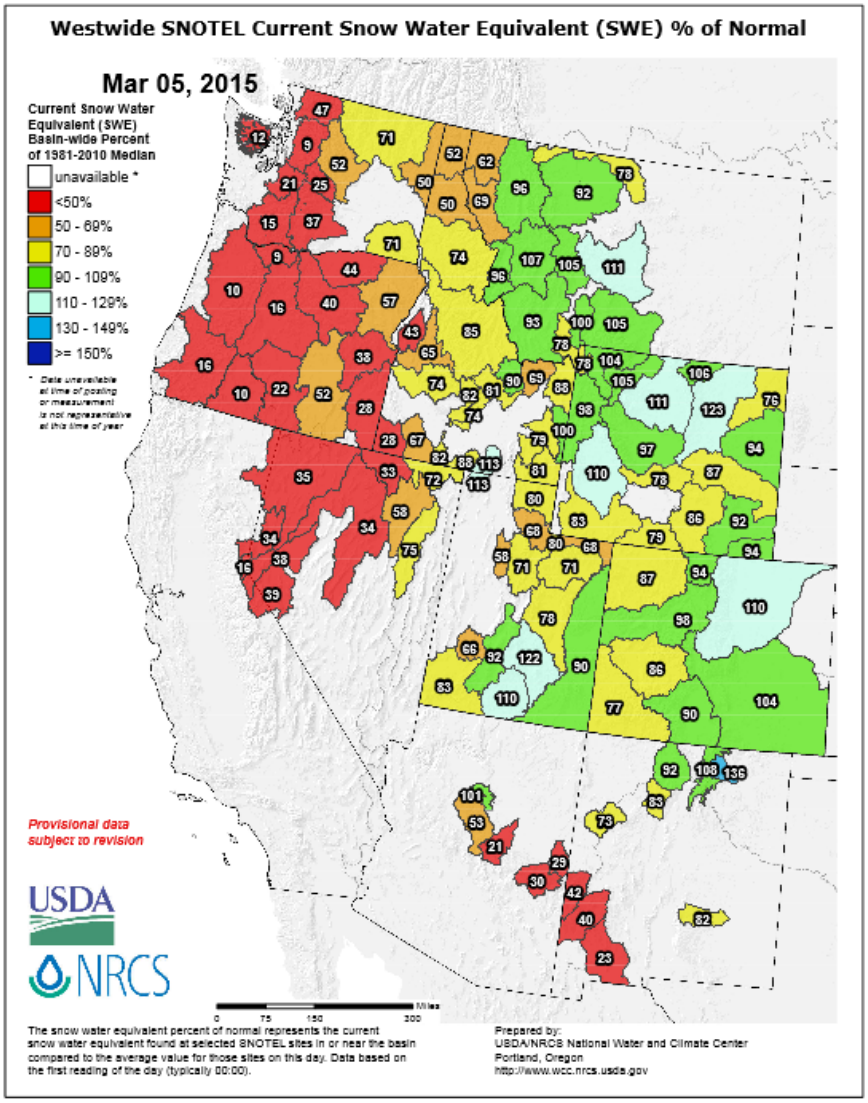
2012 Equipment 3rd Place
Brown Top SNOTEL Site, North Cascades National Park. September 2009

Photographer: Melissa Webb

Outlook: "During the next two days, a winter-weather event will unfold across the South, East, and lower Midwest. Additional precipitation totals could reach 1 to 2 inches or more from northeastern Texas into the Mid-Atlantic region. Furthermore, a significant winter weather event will feature heavy snow and sleet form the Ozark Plateau into the Mid-Atlantic States. Snow accumulations can also be expected across the southern Plains. By Friday, cold conditions across the South, East, and Midwest will contrast with mild weather from the Pacific Coast to the northern High Plains. Warmth will continue to build across the nation's mid-section through the weekend. Elsewhere, little or no precipitation will fall during the next 5 days from the Pacific Coast into the northern Corn Belt. The NWS 6-10 day outlook for March 9 – 13 calls for near- to above-normal temperatures and near- to below-normal precipitation across the majority of the U.S. Colder-than-normal conditions will be limited to the northern Atlantic region and the south-central U.S., while wetter-than-normal weather will be confined to northern California, the Pacific Northwest, and the nation's southern tier from the Rio Grande Valley into the lower Southeast."

Contact: Brad Rippey, Agricultural Meteorologist, USDA/OCE/WAOB, Washington, D.C. (202-720-2397)
Website: http://www.usda.gov/oce/weather/pubs/Daily/TODAYSWX.pdf

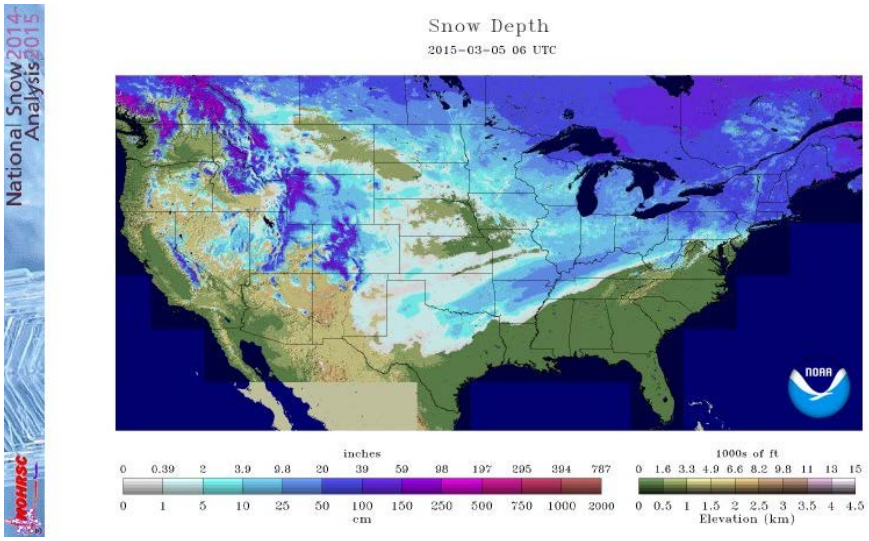
Snow



The Westwide SNOTEL Current Snow Water Equivalent (SWE) % of Normal map shows the largest snowpack deficits (red areas) in the Cascades and Olympics of Washington, most of Oregon, the Sierra Nevada in California, as well as western Nevada, southeast Arizona, southwest New Mexico, and two basins in Idaho. Still less than normal, but not quite as low, are snowpacks in eastern Washington, eastern Oregon, much of Idaho, parts of Utah, eastern Nevada, western Colorado, parts of Wyoming, central New Mexico, and a few basins in Montana (orange and yellow areas).

The snowpack in much of Montana, northern Wyoming, eastern Colorado, southeast Utah, and northern New Mexico are near normal.

A few basins in Wyoming, Montana, southern Idaho, southern Utah, one basin in New Mexico, and one basin in Colorado currently have above normal SWE values (blue areas).



The snow depth map as reported from the NWS NOHRSC for March 5, 2015, shows snow cover over 53% of the continental U.S. This includes snow across many of the mountains in the West, the upper Midwest, the Northeast, and much of the central U.S. Continued cold weather systems have supported snow across many southern states. The snow depth has increased substantially in the Northeast and in a band from Texas to New York.

Precipitation

2015, an unusual year…

So far this winter, the snowpack in the Cascades and Sierra Nevada are at or near record lows. In the last several weeks, the precipitation in this same area is near to well above average. The overriding influence in these unusual circumstances is the persistent warm temperatures that have dominated the snowpack processes.

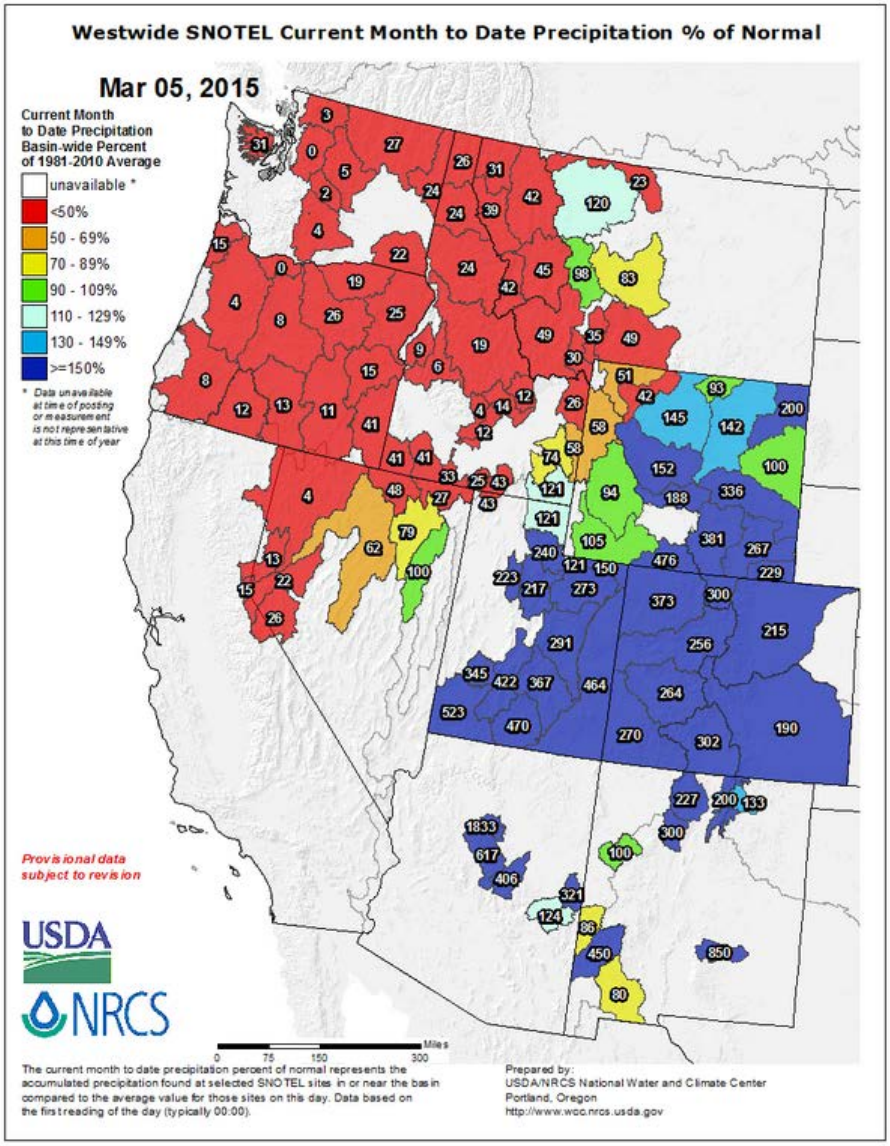
Freezing levels have remained well above the elevation of many SNOTEL sites, and snow has been confined to the highest elevations and in a very small area of the watersheds in the Pacific Northwest and Sierra Nevada. The recent heavy precipitation, especially in the Cascades of Oregon and Washington and down to the northern Sierra and Trinity Alps of California, has helped to improve any soil moisture, groundwater, and reservoir deficits. This has offset the current effects of the low snow conditions that the area has experienced but may provide future deficits in spring and summer streamflow with little to no snow support for normal snowmelt runoff water.

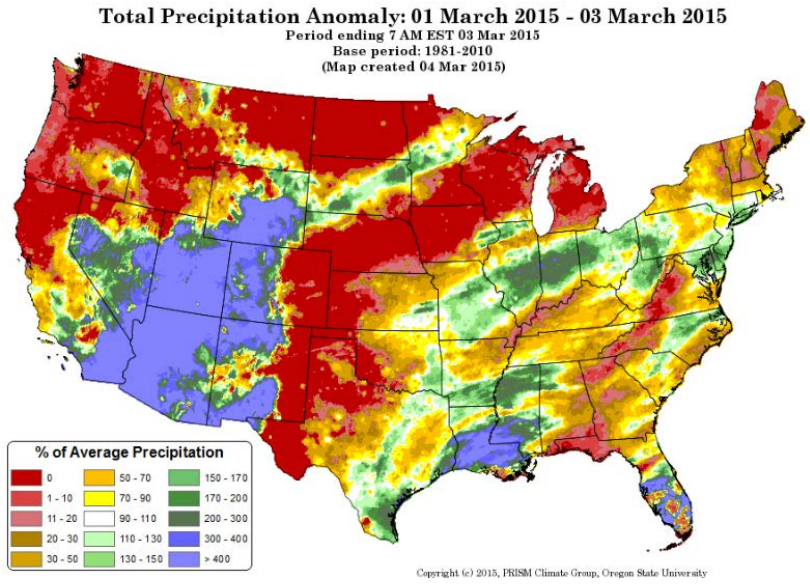
In the West, the SNOTEL precipitation percent of normal map for the first few days in March shows that the recent weather pattern has produced wet conditions in the east and southeast region of the West. Well above normal precipitation occurred in most of Wyoming, Utah, Colorado, Arizona, most of New Mexico, one basin in Montana, and one basin in southeast Idaho (blue areas).

The western and northwest portions of the West received much less than normal precipitation for the first few days of March. Basins with much below average conditions were reported in Washington, Oregon, California, and most of Nevada, Idaho, western Montana, and one basin in Wyoming (red and orange areas).

The percent of average may be exaggerated over a short period of time and dependent on normal conditions for this time of year.

Click on most maps in this report to enlarge and see the latest available update.



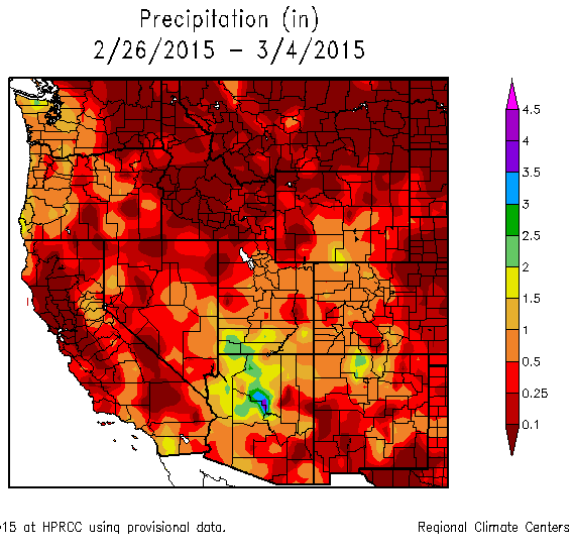


For the first few days of March 2015, the national total precipitation anomaly pattern reveals some higher than normal precipitation, primarily in the Southwest, but also occurring in southern California, Louisiana, and Florida. There was little or no precipitation in a large area of the West, including southern California, Nevada, Utah, southwest Montana, South Dakota, Texas, and northern Maine (red and dark orange areas).

This preliminary daily PRISM precipitation anomaly map contains all available network data, including SNOTEL data, and is updated periodically as additional data become available and are quality controlled.

The ACIS 7-day total precipitation map for the western U.S. shows precipitation scattered across most of the Southwest. The highest areas of significant precipitation were in central Arizona with over 4 inches for the period. Other areas of precipitation were reported in California, southern Nevada, Colorado, Arizona, and New Mexico. There were a few scattered areas of precipitation in western Washington, central Idaho, western Montana, and central Wyoming.

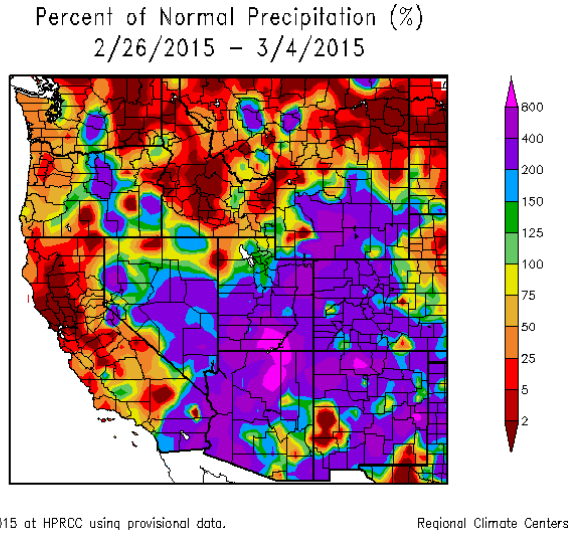
Little to no precipitation fell across most of Montana, Idaho, eastern Washington, and western California this week (dark red). In addition, scattered basins in eastern Wyoming, Nevada, and southwest New Mexico also received little or no precipitation.

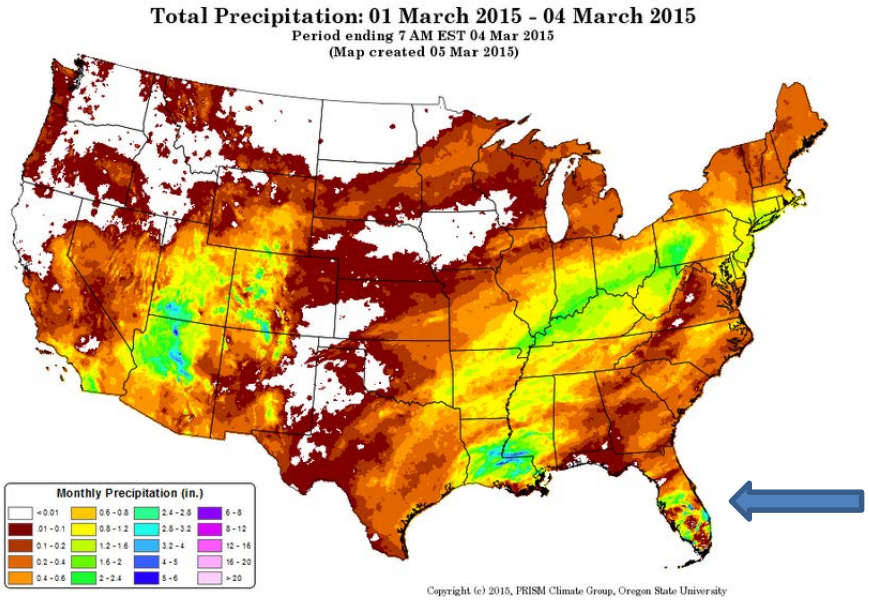


This ACIS percent of normal map of the West for the last seven days reflects precipitation scattered across many parts of the region. The heaviest percent of normal precipitation fell in several areas along the Rocky Mountains and in the Southwest. This includes Wyoming, Colorado, New Mexico, Utah, southern Nevada, southern California, Arizona, and a few other areas (purple areas).

Very dry conditions for the week were in northern California, eastern Washington, central Idaho, parts of Montana, and a few basins in other states (red areas).

Percent of normal precipitation may be exaggerated in areas where the average for this seven-day period is at or near zero.



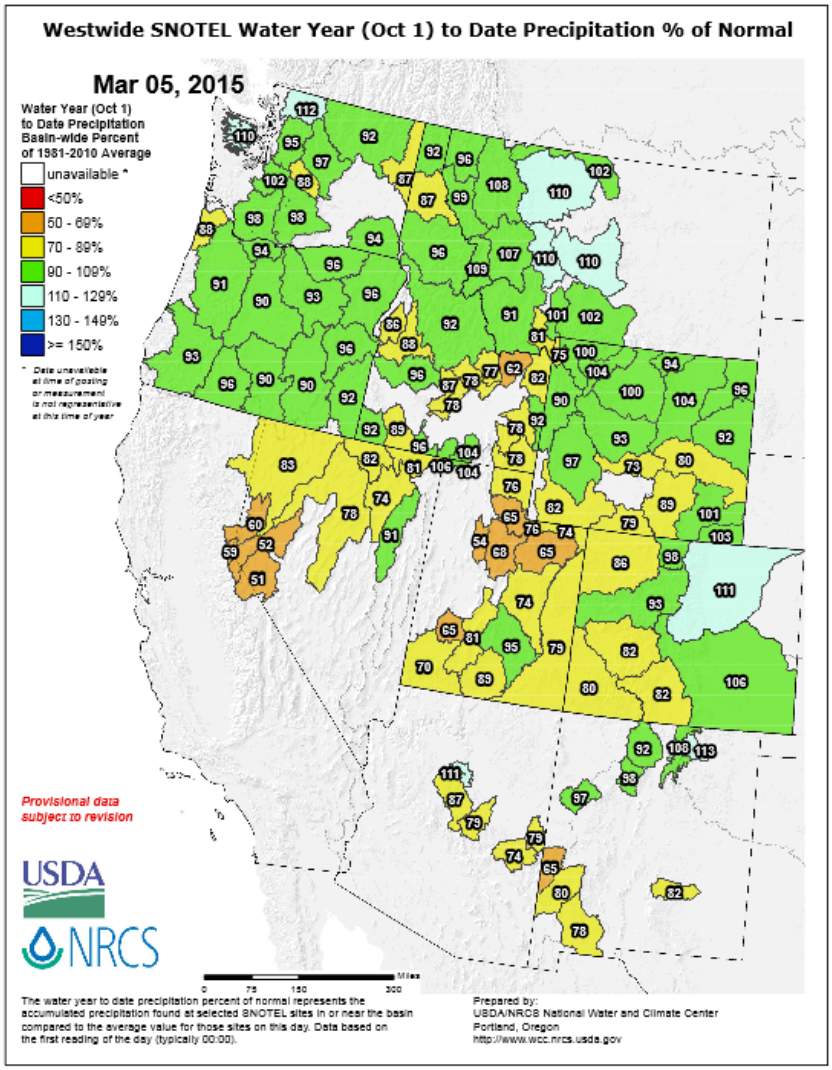


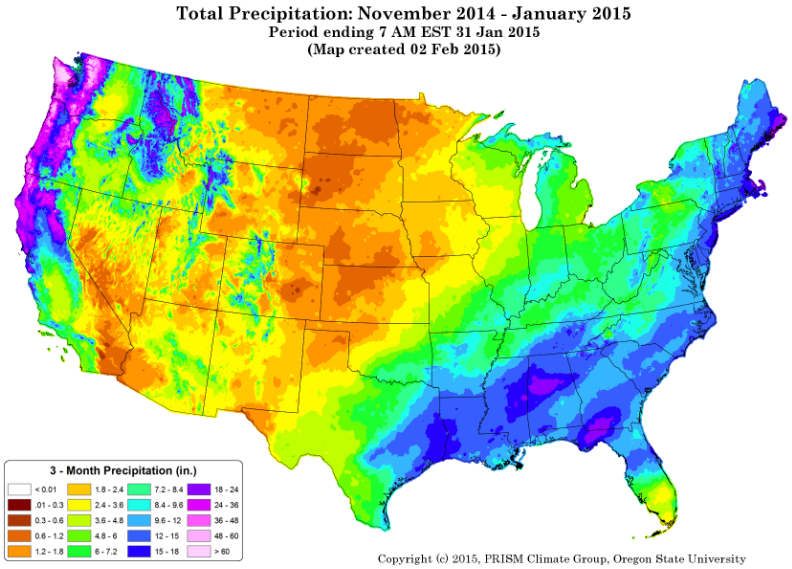
For the first few days of March 2015, the total precipitation across the continental U.S. was heaviest in Arizona, Utah, Louisiana, and Florida. Precipitation also fell over other parts of the Northeast, southern California, and the Ohio Valley. In contrast, much of the Pacific Northwest, northern and central Great Plains, eastern New Mexico, western Texas, upper Midwest, and a few areas of the Southeast were mainly dry.

See Go Hydrology for current and forecast conditions over southern Florida.

For the 2015 Water Year that began on October 1, 2014, the highest precipitation surpluses in the West are only slightly higher than average. Some of central Montana, two basins in northwest Washington, one basin in northeast Colorado, and one basin in central Arizona are above 110% at this time.

Many basins across the West have near normal conditions for this part of the Water Year (mapped in green). A few areas have less than normal precipitation for the Water Year. These include basins in southern Idaho, southern Wyoming, western Colorado, most of Utah, California, most of Nevada, most of Arizona, southern New Mexico, and a few basins in other states (mapped in yellow and orange).

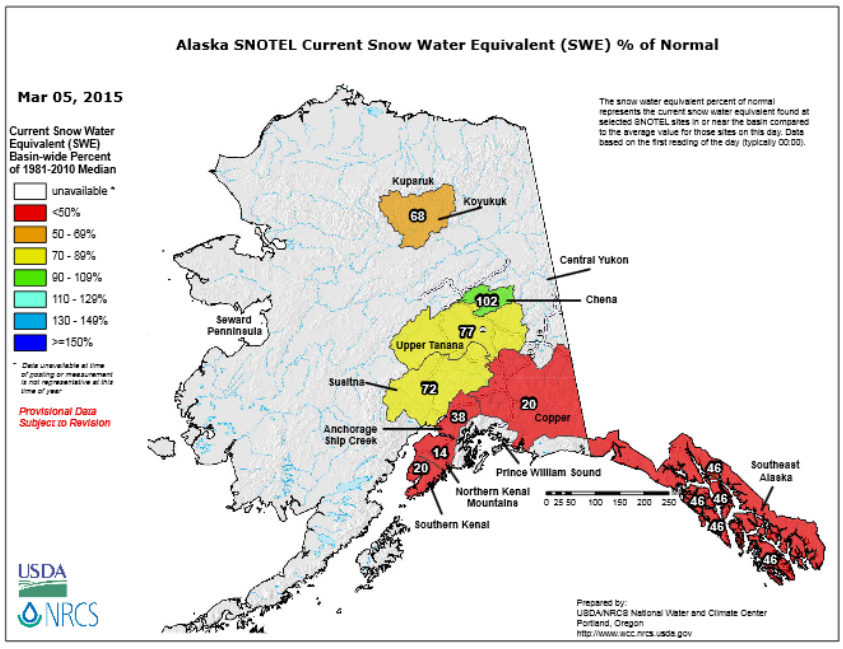




The national map of the three-month period (November - January) shows that the eastern half of the nation received precipitation in the range from 6 inches to greater than 18 inches. Parts of the West, especially in the mountains, also received significant precipitation. The highest amounts over 48 inches were recorded in Oregon and Washington.

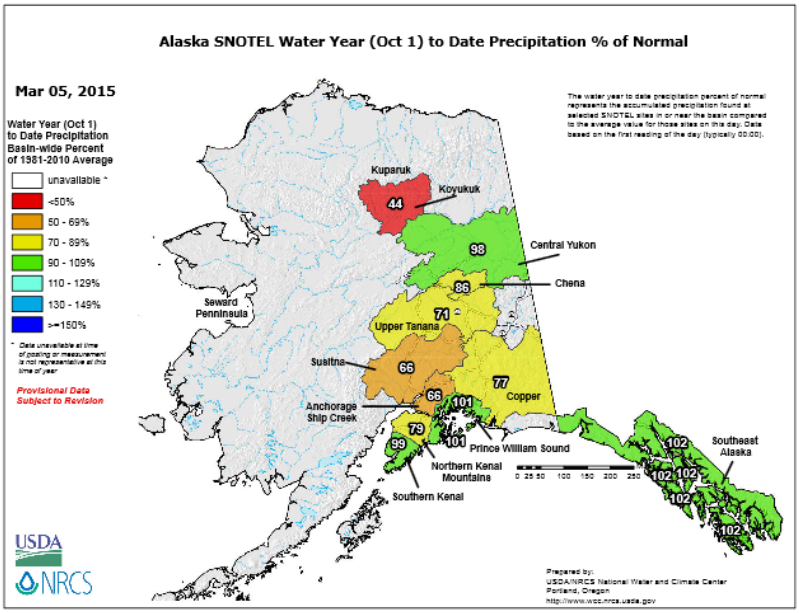
In contrast to the eastern U.S. and Pacific coast, parts of the West and much of the Midwest received totals of less than 1.8 inches.

NEW! Alaska Snow Water Equivalent and Precipitation Conditions



The Alaska SNOTEL current SWE map shows less than average conditions across the state, with the exception of the Chena basin. The areas with much below normal snowpack are on the Kenai Peninsula, and the Copper and Anchorage/Ship Creek basins. See the Alaska update report for individual station data.

The Alaska Water Year to Date Precipitation map shows near average conditions for the southern and southeast parts of the state, whereas interior Alaska is drier than average. The Koyukuk basin is now at 44% of average for the Water Year. See the Alaska update report for individual station data.

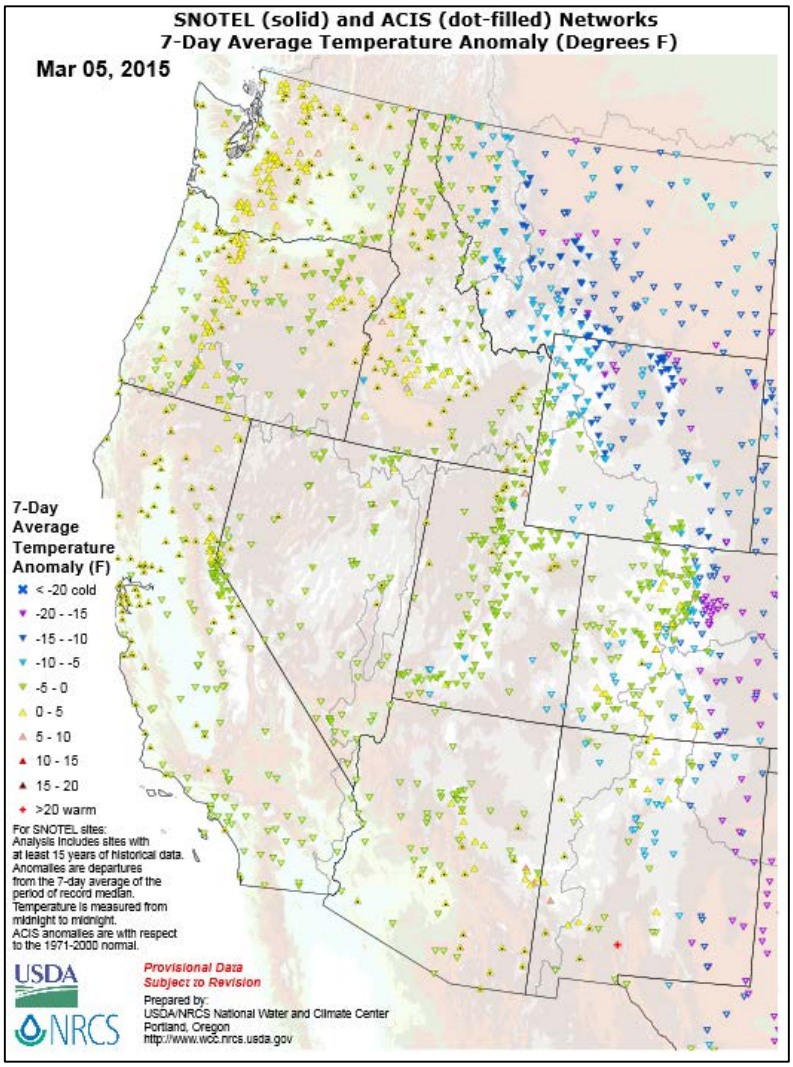


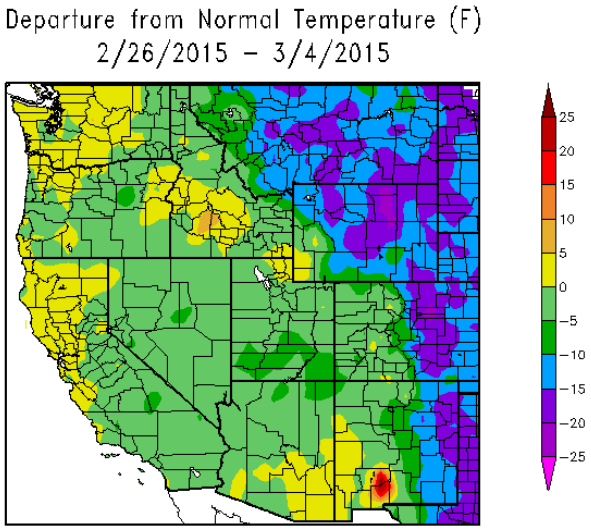
Temperature

The SNOTEL and ACIS 7-day temperature anomaly map for the western U.S. shows most of the areas west of the Rockies were near normal for the week. There were only a few warm temperature anomalies widely scattered in northern Utah, Idaho, central Washington, eastern Arizona, and western New Mexico, where anomalies were 5-10 degrees F. Montana, Wyoming, Colorado, and western New Mexico also had a very few stations with warmer temperature departures from normal.

There were many stations with near normal temperatures across the West.

There were cool anomalies in and east of the Rocky Mountains and into the Great Plains. The coolest anomalies were located along the east slope of the Rockies from Montana to New Mexico and Texas in the 15–20 degree F cool anomaly category.



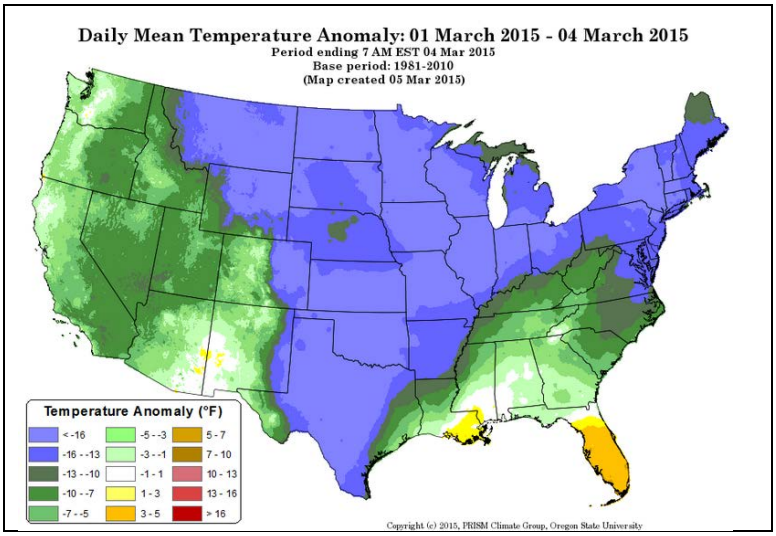


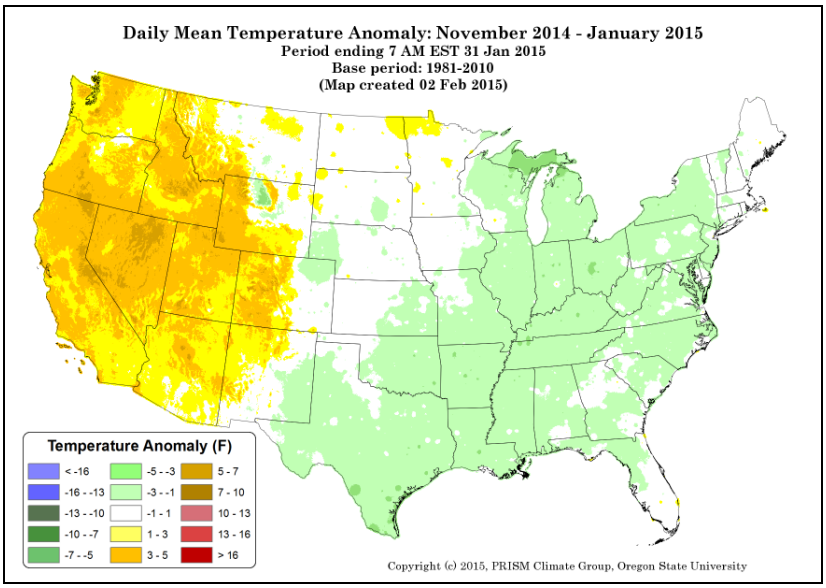
The ACIS map of the 7-day average temperature anomalies in the West ending March 4 shows that the West was near normal in much of the region. The greatest positive temperature departures occurred in central Idaho (>+5°F). Other slightly warm temperatures were scattered across the West. There were negative temperature departures in and east of the Rockies, which spanned from Canada to Mexico. The coolest anomalies were reported in central Wyoming, and Central Colorado (< -20°F).

Also, see Dashboard and the Westwide Drought Tracker

This preliminary PRISM temperature map contains all available network data, including SNOTEL data, and will be updated periodically as additional data become available and are quality controlled.

Thus far in March 2015, the national daily mean temperature anomaly map shows a persistent large, cool region over the eastern half of the country, with the coldest anomaly covering a wide area from Canada to Mexico and from the Rockies to New England (<-16°F). In contrast, above normal temperatures were recorded in a few locations in the Southwest, Louisiana, and Florida. Florida had the highest anomalies (>+3°F).





The November - January national daily mean temperature anomalies for the U.S. in this climate map shows the western U.S. had slightly to above normal temperatures (>+5°F). The central and northern Great Plains reported normal to slightly cooler than normal temperatures for this period, with the coolest temperatures in a large area covering most of the Midwest and eastern U.S. (<-3°F).

Weather and Drought Summary

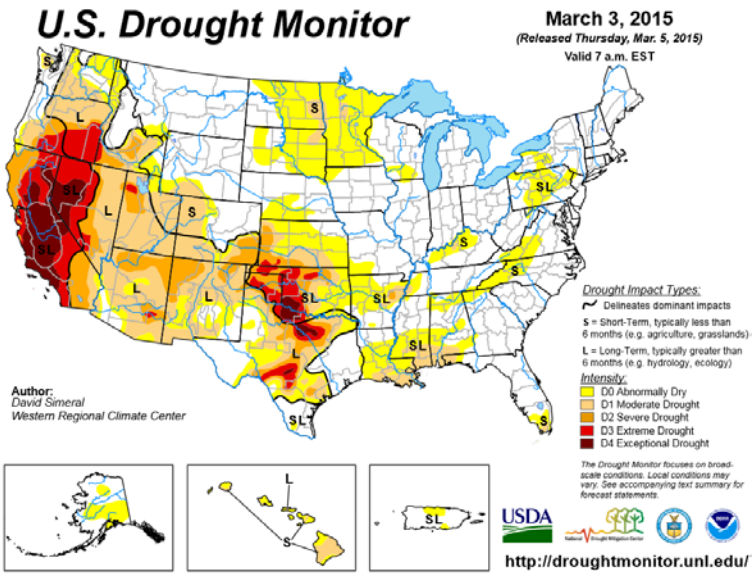
National Drought Summary – March 3, 2015

The following **Weather and Drought Summary** is provided by this week's NDMC Drought Author, David Simeral, Western Regional Climate Center.

USDM Map Services: contains archived maps

"For the contiguous 48 states, the U.S. Drought Monitor showed 31.88 percent of the area in moderate drought or worse, compared with 32.83 percent a week earlier. Drought now affects 72,996,934 people, compared with 76,064,294 a week earlier.

For all 50 U.S. states and Puerto Rico, the U.S. Drought Monitor showed 26.73 percent of the area in moderate drought or worse, compared with 27.52 percent a week earlier. Drought now affects 73,435,472 people, compared with 76,243,270 a week earlier."



See: Latest Drought Impacts during the past week.

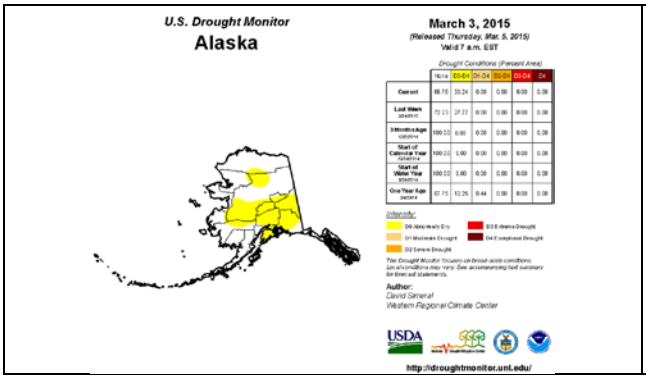
Current Drought Monitor weekly summary. The exceptional D4 levels of drought are scattered across CA, NV, TX, and OK.

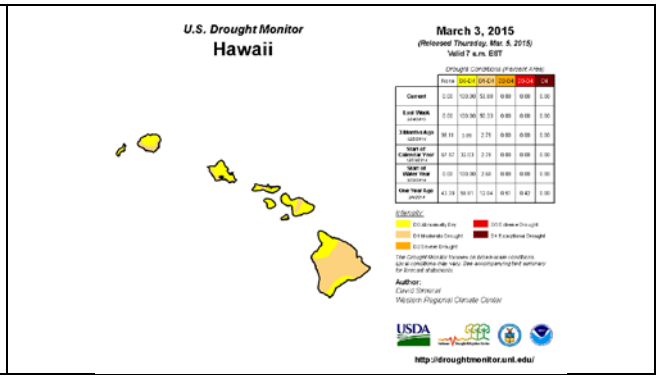
The latest drought indicator blend and component percentiles spreadsheet is a great resource for climate division drought statistics. This link is for the latest Drought Outlook (forecast). See climatological rankings.

For more drought news, see Drought Impact Reporter.
***New**: ENSO Blog.*

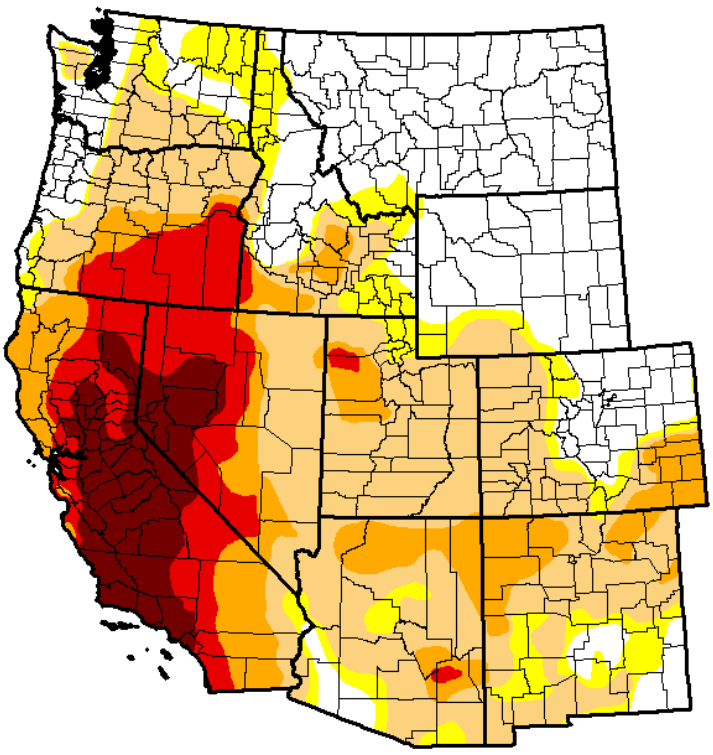
Drought Management Resources:

- ✓ http://www.usda.gov/oce/weather/Drought/AgInDrought.pdf
- ✓ Watch AgDay TV
- ✓ Drought Impacts Webinar Series
- ✓ NIDIS Quarterly Climate Impacts and Outlook
- ✓ The Spring 2014 edition of DroughtScape
- ✓ U.S.Crops in Drought





"The 49th and 50th States show normal to moderate drought conditions. D0 increased in Alaska this week. D1 increased in Hawaii this week. A comprehensive narrative describing drought conditions across other parts of the nation can be found toward the end of this document. For drought impacts definitions for the figures that follow, click here."



March 3, 2015
(Released Thursday, Mar. 5, 2015)
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	29.95	70.05	59.79	29.48	16.62	7.04
Last Week 2/24/2015	30.07	69.93	59.91	31.06	17.38	7.04
3 Months Ago 12/2/2014	34.32	65.68	55.16	34.01	18.98	8.45
Start of Calendar Year 12/30/2014	34.76	65.24	54.48	33.50	18.68	5.40
Start of Water Year 9/30/2014	31.48	68.52	55.57	35.65	19.95	8.90
One Year Ago 3/4/2014	22.79	77.21	59.41	41.01	15.27	3.61

Intensity:
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:
David Simeral
Western Regional Climate Center

http://droughtmonitor.unl.edu/

There was a slight decrease in D1-D3 and the drought-free area for the week. The D0 category slightly increased in the West this week. D4 remained unchanged.
Click to enlarge maps

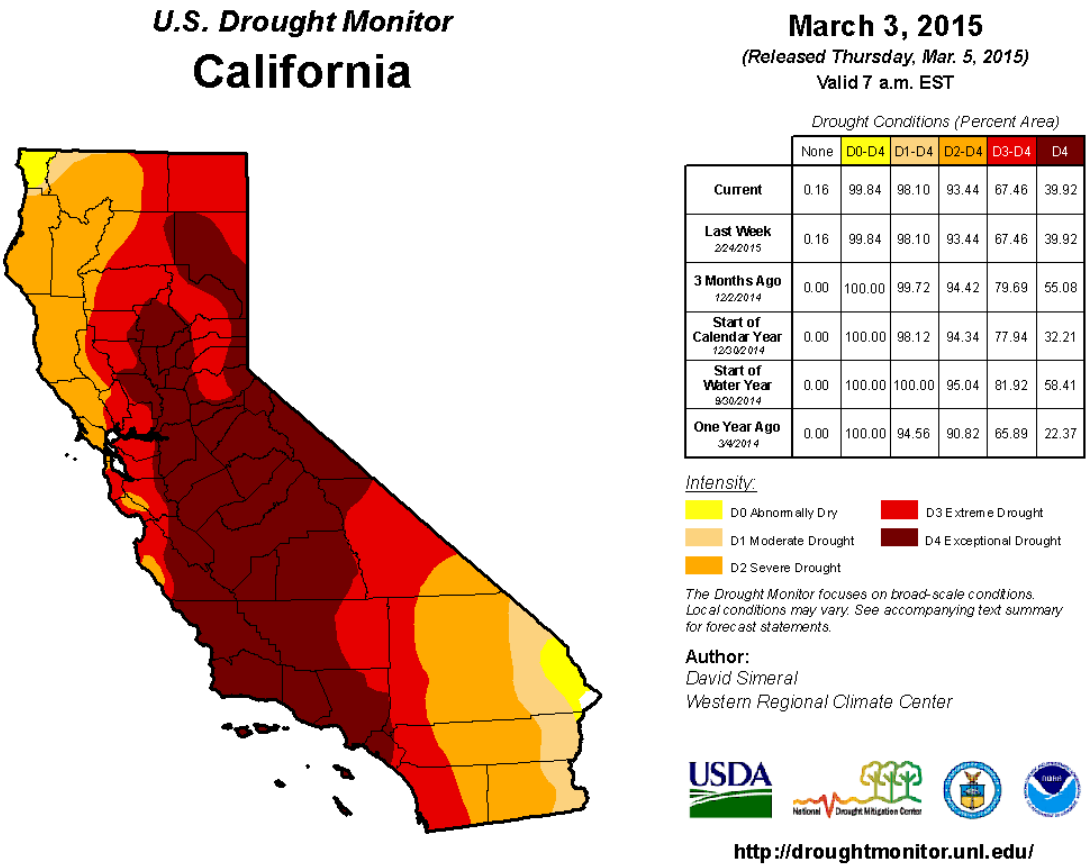
Risk Management Web Resources

Drought Monitor for the Western States. Drought Impact Reporter for New Mexico, California Data Exchange Center & Flood Management Intermountain West Climate Dashboard
California Sierra Nevada-related snow pack

U.S. Impacts during the past week:

KY - 2014 Kansas crop values down as drought, market takes toll – Feb 24
U.S. What are they smoking? At a Texas barbecue camp, it's gotta be brisket. – Feb 24
AZ - Drought, little snow leave Grand Canyon springs high and dry – Feb 21

State with D-4 Exceptional Drought



There was no change in the drought categories in California for the week.

CA Drought Information Resources

Drought News from California:

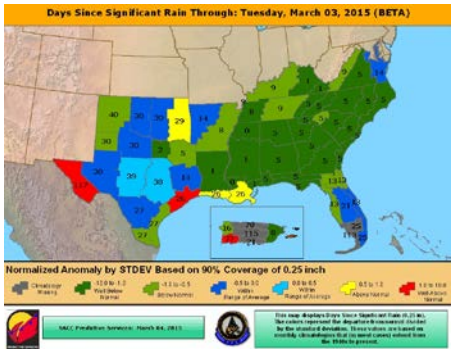
Despite drought, Bay Area salmon fishermen see hope for 2015 season – Feb 24
Amid drought, a turf war between residents and homeowners associations – Feb 26
California's drought could mean another bad year for West Nile virus – Feb 23
Nearly all California voters think water shortage is serious: poll – Feb 26
Sacramento City Council OKs speeding up installation of water meters – Feb 24
San Juan Capistrano case challenges legality of tiered water rates – Feb 27
Santa Cruz giant water slide event plans nixed – Feb 24
Drought drains hopes of Central Valley Project buyers – Feb 27
Drought, little snow leave Grand Canyon springs high and dry – Feb 21
Water thefts on the rise in drought-stricken California – Feb 23

Weekly Water and Climate Update

Texas Drought Website.
Texas Reservoirs.
Texas Drought Monitor Coordination Conference Call: on Monday's 2:00 PM - 3:00 PM CST

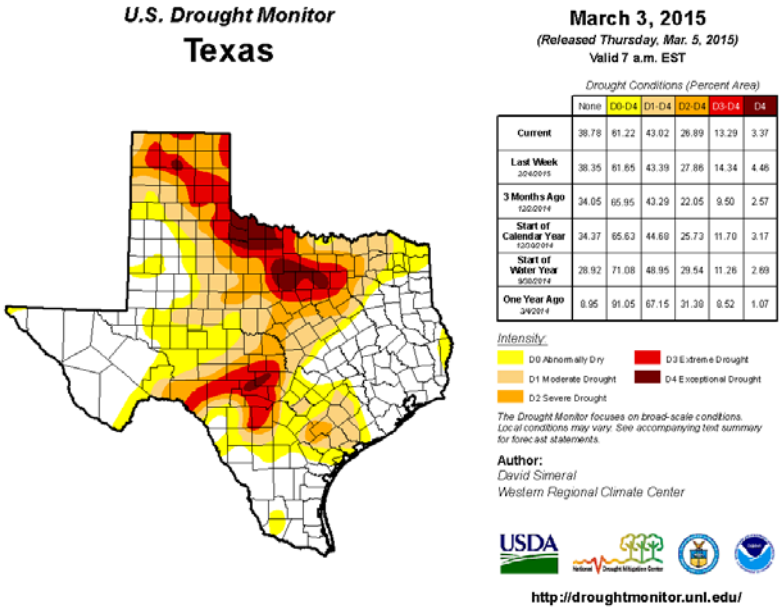
Texas Drought News:

North Texas water district extends Stage 3 watering limits through April - Feb 26
Despite rains, many reservoirs lower this year than last – Feb 21



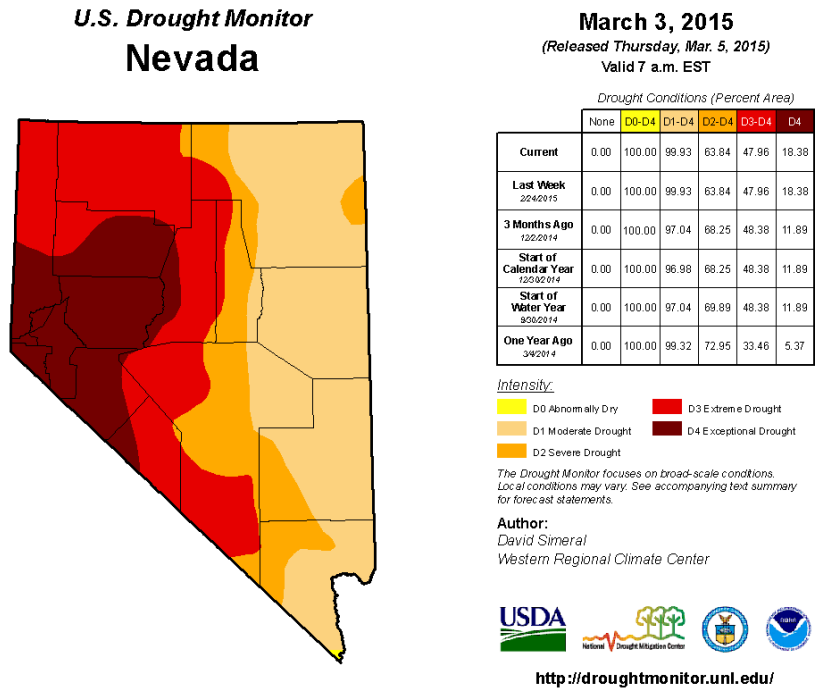
Days since Significant Rain Summary

State with D-4 Exceptional Drought



There was a decrease in all drought categories in Texas this past week. The drought free areas increased for the week.

State with D-4 Exceptional Drought



There was no change in Nevada drought categories for the week.

Nevada Drought News:

***Drought* continues, new worries emerge** – Mar 2

Weekly Water and Climate Update

Related Area News:

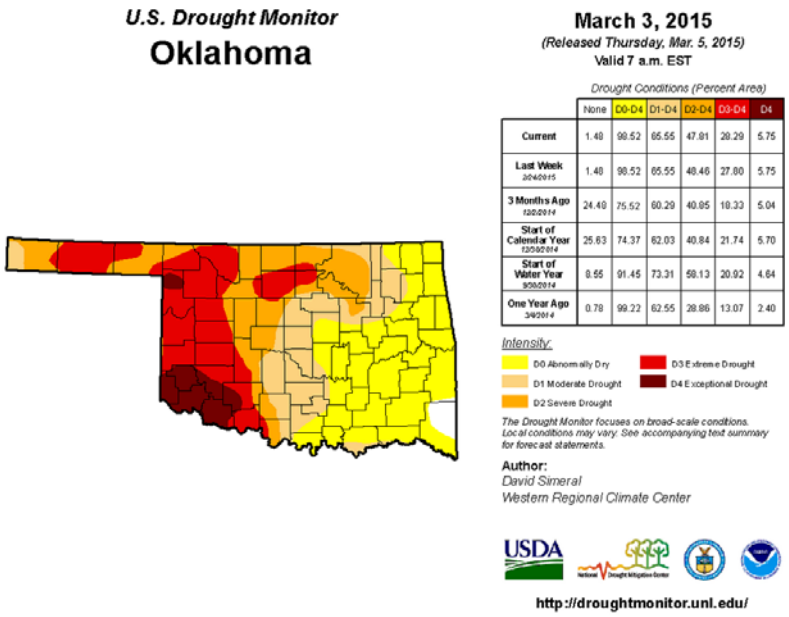
2014 Kansas Drought Report and Summary

- ***Past 30 days precipitation totals***
- ***Past 30 days precipitation percent of normal***
- ***Calendar Year precipitation totals***
- ***Calendar Year Precip percent of normal***
- ***Short Crop ET***

Oklahoma Drought News:

Snow Does Little to Ease *Oklahoma Drought* – Feb 23

State with D-4 Exceptional Drought



There was a very slight decrease in the D2 and a slight increase in D3 drought categories in Oklahoma this past week.

U.S. Population in Drought

Number of people in each drought category in the U.S. for the week ending March 1, 2015

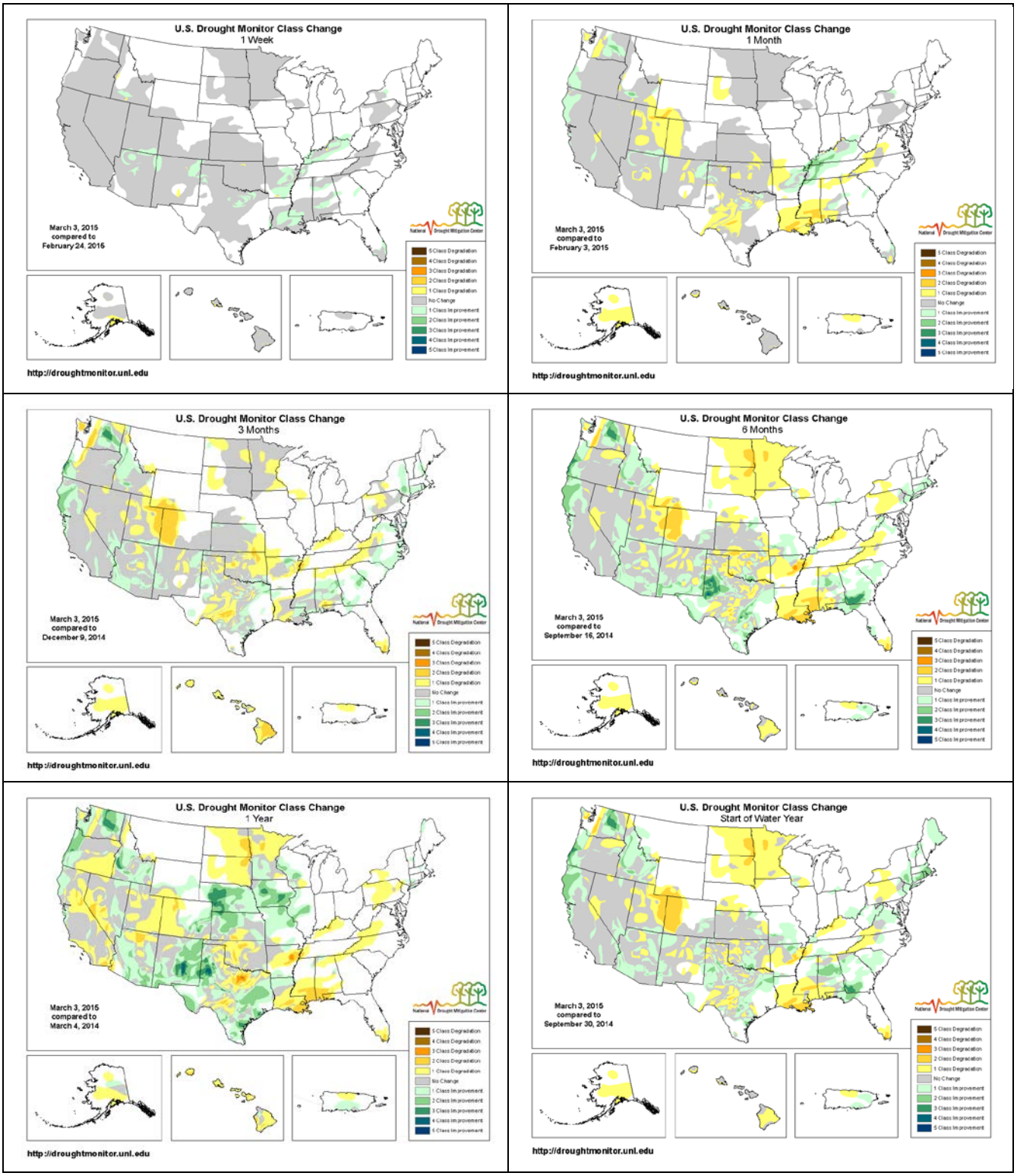
Week	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
2015-03-03	191,859,878	113,537,577	72,996,935	47,500,841	36,991,274	21,787,305
2015-02-24	186,484,904	118,912,550	76,064,295	47,768,809	37,872,106	24,171,298

Population figures affected by drought in the U.S. Drought Monitor website show that, for this week, more than 72,000,000 people in the United States were in a drought-affected area, which is a decrease by over 3.0 million people from last week.

Population Statistics Methodology:
The U.S. Drought Monitor population statistics are calculated at the county level, and aggregated to the state, regional, and national levels. The population densities have been calculated for each county. The proportion of the physical area of the county that is in drought is multiplied by the uniform population density in order to obtain a number for each county. The county values are then summed at the state, regional, and national level.

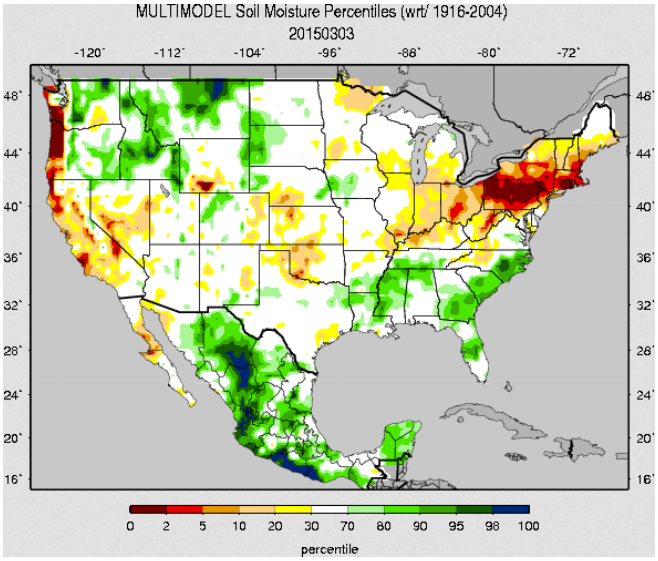
Changes in Drought Monitor Categories

Over Various Time Periods



Click on any of these maps to enlarge. Note how the conditions over the upper Great Plains and Ohio Valley have degraded between 6 to 12 months (middle right to lower left maps). However, also note that since a year ago, conditions over parts of the Northeast, the South, parts of the southern Great Plains and the Pacific coast states have improved (lower left map).

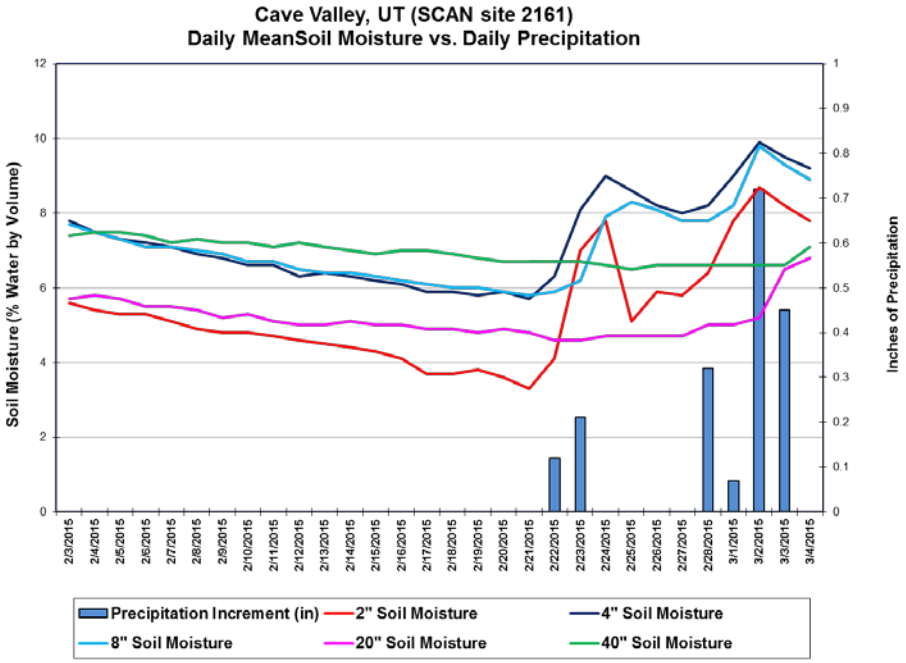
Soil Moisture



The national soil moisture model ranking in percentile as of March 3, 2015, shows dryness over most of the Northeast and along the West coast. The driest areas are in western Washington, western Oregon, Nevada, California, southern Wyoming, Ohio, West Virginia, Pennsylvania, and many Northeast states. Moist soils dominated north-central Montana, in the Cascades of Washington and Oregon, Idaho, western South Dakota, and North Carolina. Slightly moist soils were also scattered elsewhere throughout the South and the Southeast. Much of the country has frozen conditions, so soil moisture conditions may not be representative.

Useful Hydrological Links: *Crop Moisture Index; Palmer Drought Severity Index; Standardized Precipitation Index; Surface Water Supply Index; Weekly supplemental maps, Minnesota Climate Working Group; Experimental High Resolution Drought Trigger Tool;* NLDAS Drought Monitor; Soil Moisture

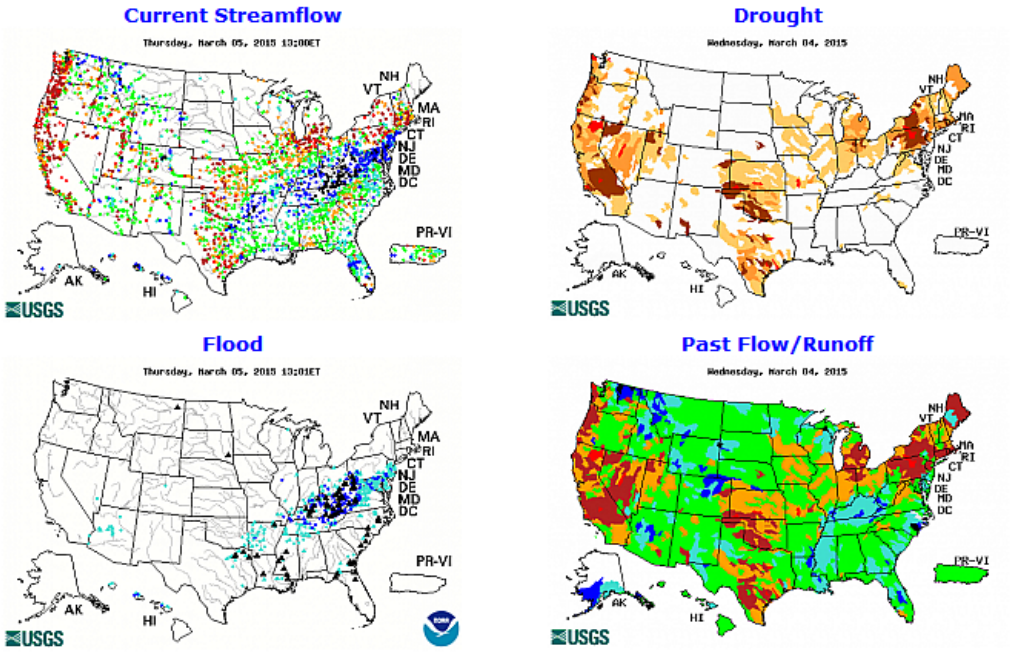
Soil Climate Analysis Network (SCAN)



This NRCS resource shows soil moisture data for the last month at Cave Valley (SCAN site 2161) in Utah. The area had precipitation several times late in the past month (blue bars). This rainfall resulted in an increase in soil moisture at all depth sensors from the precipitation events, although delayed in the 20- and 40-inch sensors.

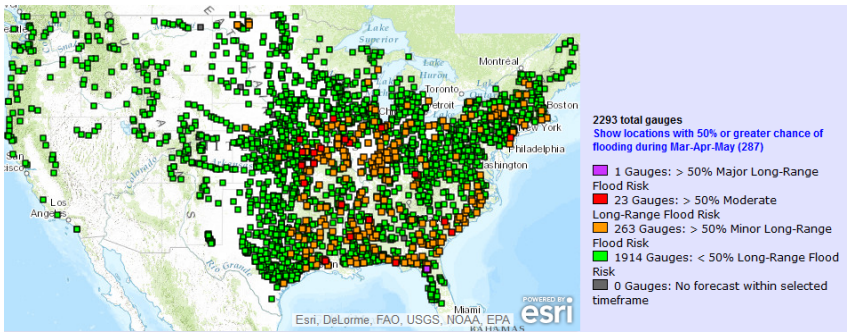
Useful Agriculture Links: *Vegetation Drought Response Index; Evaporative Stress Index; Vegetation Health Index; NDVI Greenness Map; GRACE-Based Surface Soil Moisture; North American Soil Moisture Network. Monthly Wild Fire Forecast Report.*

Streamflow



Gages in several areas of the U.S. are reporting much above normal streamflow. Many streams in the Northwest and Southeast are flowing high due to recent precipitation. Some gages in the northern states are now frozen, so may not relate to the precipitation and snow conditions in that area. There are a vast number of rivers above flood stage at this time. These include rivers in eastern Texas, Louisiana, Mississippi, Arkansas, Tennessee, Kentucky, southern Ohio, western Pennsylvania, West Virginia, western Virginia, North Carolina, South Carolina, Georgia, Florida, and one gage in Montana.

National Long-Range Outlook



Click map to enlarge and update

Currently the Upper Midwest part of the map has not been calculated for the long range flood outlook (dark gray dots).

During the next three months, there is a risk of flooding in much of the eastern U.S. The Southeast and the Midwest have gages with a slight to higher risk of flooding. Currently, **1** gage has a greater than 50% chance to experience major flooding; 23 gages for moderate flooding; and **263** gages for minor flooding.

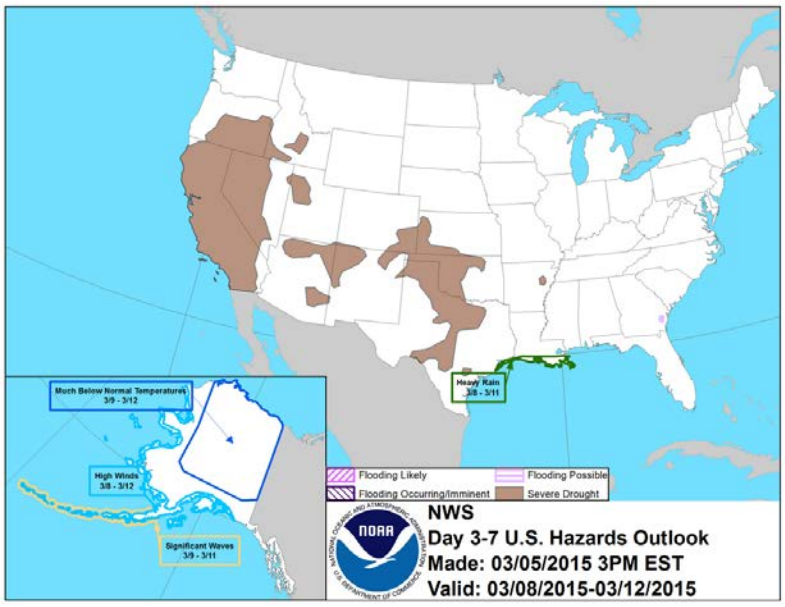
These numbers represent a **16** gage increase in the greater than 50 percent chance of minor flooding category since last week.

National Weather Hazards

Heavy rain is expected along the Gulf coast of eastern Texas and Louisiana (3/8-11). A small area of possible flooding is located in southeast Georgia.

In Alaska, significant waves are forecast for the western Aleutians (3/9-11). High winds are forecast for the whole west coast (3/8-12) and interior Alaska is forecast to have much below normal temperatures (3/9-12).

Severe drought remains a large issue in much of the south-central and western U.S.



National Drought Summary for March 3, 2015

Prepared by the Drought Monitor Author: David Simeral, Western Regional Climate Center.

Summary
"This U.S. Drought Monitor week saw an active pattern nationwide as a series of storms delivered much-needed rain and mountain snow to portions of the Southwest and a wintery mix of freezing rain and snow to the lower Midwest, Mid-Atlantic, and the Southern Tier from Texas to Georgia. Significant snowfall accumulations were observed in the mountains of northern Arizona, southwestern Colorado, northern New Mexico, and southwestern Utah helping to improve snowpack conditions. In the South, heavy rains fell across portions of Louisiana and Mississippi, while freezing rain and snow dipped as far south as Alabama and Georgia. In the Northeast, snow showers and cold temperatures persisted. Average temperatures east of the Continental Divide were well below normal, dipping up to 20°F below normal in the South, Southern Plains, Midwest, and Northeast. Out West, temperatures were slightly below normal except for portions of the Pacific Northwest where temperatures hovered slightly above normal.

Hawaii, Alaska, and Puerto Rico
In the Hawaiian Islands, temperatures during the past week were above normal, especially in Kauai and along the Kona Coast of the Big Island. Some light- to-moderate precipitation (1 to 4 inches) fell in portions of Kauai, Maui, and on the windward side of the Big Island. On the map, short-term precipitation deficits (during the past 30 days) and low streamflow conditions led to expansion of areas of Moderate Drought (D1) on the leeward side of Oahu. In Alaska, temperatures were well above normal across most of the state with areas in the eastern Interior and North Slope reaching 20°F above normal during the last seven days. Since the beginning of the Water Year (October 1), temperatures across the state have been above normal (2°F to 8°F). Precipitation for the week was near normal in the northern half of the state while south central and southeastern Alaska was below normal. According to the NRCS SNOTEL network, the snowpack in Alaska is well below normal across most of the state with the exception of the Chena Basin in the Interior. Poor snowpack conditions led to the introduction of Abnormally Dry (D0) across the Talkeetna Range, western portions of the Chugach Mountains, Kenai Peninsula, and the coastal mountains in Prince William Sound. In Puerto Rico, conditions remained status quo on the map.

Mid-Atlantic
The Mid-Atlantic remained drought-free on this week's map, and no changes were made. During the past week, a mix of snow, sleet, and freezing rain affected much of the region with the highest liquid accumulations (1.5 to 2.5 inches) observed along the central and eastern portions of North Carolina. The unseasonably cold air that had settled into the region allowed for snow to fall in the lower elevations in the Piedmont and Coastal Plain areas of North Carolina and Virginia. Otherwise, liquid precipitation accumulations in Virginia and western North

Carolina were generally less than 1 inch. Average temperatures for the week were 6° to 15° degrees below normal.

Midwest
During the past week, temperatures were well below normal across the entire region with areas in eastern Iowa, northern Illinois, northern Indiana, and northern Ohio experiencing average temperatures in excess of 20°F below normal. In portions of Missouri, central Illinois, central Indiana, and Ohio, light to moderate snowfall accumulations were observed last week. Above normal precipitation (during the past 30 days) helped to improve streamflow and soil moisture conditions in Kentucky leading to one-category improvements in areas of Moderate Drought (D1) and Abnormally Dry (D0). According to the National Weather Service National Operational Hydrologic Remote Sensing Center (NOHRSC) snow analysis, the Northern Great Lakes region is currently 99.4% covered by snow with an average snow depth of 13.5" while the Midwest region is currently 38% covered by snow.

The Northeast
The Northeast remained drought-free on the map this week as cold temperatures and snow continued. According to the National Weather Service National Operational Hydrologic Remote Sensing Center (NOHRSC) snow analysis, the Northeast is currently 99.2% covered by snow with an average depth of 24 inches. As of March 1, the National Weather Service Forecast Office in Boston reported that several locations experienced their snowiest winter on record including Boston (99.4") and Worcester, MA (101.4"). Average temperatures for the week were 8–20°F below normal.

The Plains
Across the Plains states, temperatures were well below normal for the period with the greatest departures observed in the Southern Plains. Overall, the Northern Plains were generally dry during the past week, while a mix of freezing rain and snow shower activity impacted the Southern Plains. The only changes on this week's map were made in north-central Oklahoma where short-term precipitation deficits and deteriorating local pond conditions led to expansion of Extreme Drought (D3) in north-central Oklahoma.

The South
The South experienced unseasonably cold temperatures and a wintery mix of freezing rain, sleet, and snow during the past week. Light snow was observed from East Texas through Arkansas as well as northern portions of Louisiana and Mississippi while east-central Louisiana and southwestern Mississippi experienced locally heavy rains. Rainfall accumulations in portions of Louisiana and Mississippi ranged from 2 to 6 inches leading to improvements in areas of Moderate Drought (D1). In Arkansas and western Tennessee, improved soil moisture and streamflow conditions led to one-category improvements in areas of Abnormally Dry (D0), Moderate Drought (D1), and Severe Drought (D2). In Texas, near-to-above normal precipitation during the past 60 days led to minor improvements in reservoir conditions in the north-central area, primarily in Dallas reservoirs, which are currently at 68.6% full, according to Water Data for Texas. In response, one-category improvements were made in areas of Exceptional Drought (D4), Extreme Drought (D3), and Severe Drought (D2). In the Texas Panhandle, above normal precipitation during the last 60 days led to minor improvements in areas of Severe Drought (D2) and Moderate Drought (D1). Overall, temperatures across the entire region were well below normal (10°F to 25°F) during the past week.

The Southeast
During the past week, the Southeast experienced wintery weather with northern portions of Alabama and Georgia experiencing snow, sleet, and freezing rain including nearly a foot of snow in areas of northwestern Alabama. Liquid precipitation accumulations ranged from one-to-four inches with the highest accumulations observed in northwestern Alabama, southern Georgia, and southeastern South Carolina. The cold air that penetrated the region extended as far south as northern Florida in contrast to near-to-above normal temperatures in central and southern Florida. On the map, this week's precipitation events, combined with cold temperatures, helped to improve soil moisture and streamflow conditions leading to improvements in areas of Abnormally Dry (D0) and Moderate Drought (D1) in Alabama and Georgia. In south Florida, pockets of locally heavy rains (4 to 11 inches) fell in portions of Palm Beach, Broward, Miami-Dade, and Collier counties leading to improvements in areas of Abnormally Dry (D0).

The West
A series of storms starting late last week impacted the region with significant snowfall accumulations (12 to 24 inches) observed in the mountains of northern Arizona, southwestern Colorado, southwestern Utah, and

northern New Mexico. The storms helped to boost snowpack conditions to normal in several drainage basins in Arizona and New Mexico including San Francisco Peaks of northern Arizona (104% of normal) and the Cimarron and Sangre De Cristo Range of New Mexico (125% and 100% of normal, respectively). However, the storms did not have an impact on the mountains of central Arizona and southwestern New Mexico where the current snowpack conditions remain well below normal. On the map, improvements were made in areas of Extreme Drought (D3) on the North Rim of the Grand Canyon and in the Chuska Mountains in the Four Corners along the Arizona-New Mexico border. Additionally, areas of Severe Drought (D2) were reduced to Moderate Drought (D1) along the Arizona-Utah border. In California, the Sierra Nevada Range snowpack remains in very poor condition despite some moderate snowfall accumulations in the central portions during the weekend. According to the Department of Water Resources latest snow survey, the snow water content of the Sierra Nevada snowpack is currently 19% of normal. In the Pacific Northwest, snowpack conditions are equally poor – ranging from 9% to 47% of normal in the Cascades of Oregon and Washington. In west-central Idaho, below normal snowpack conditions in the Weiser Basin (43% of normal) led to the expansion of Moderate Drought (D1) as well as expansion of Severe Drought (D2) in south-central Idaho where unseasonably warm temperatures are prematurely melting the snowpack.

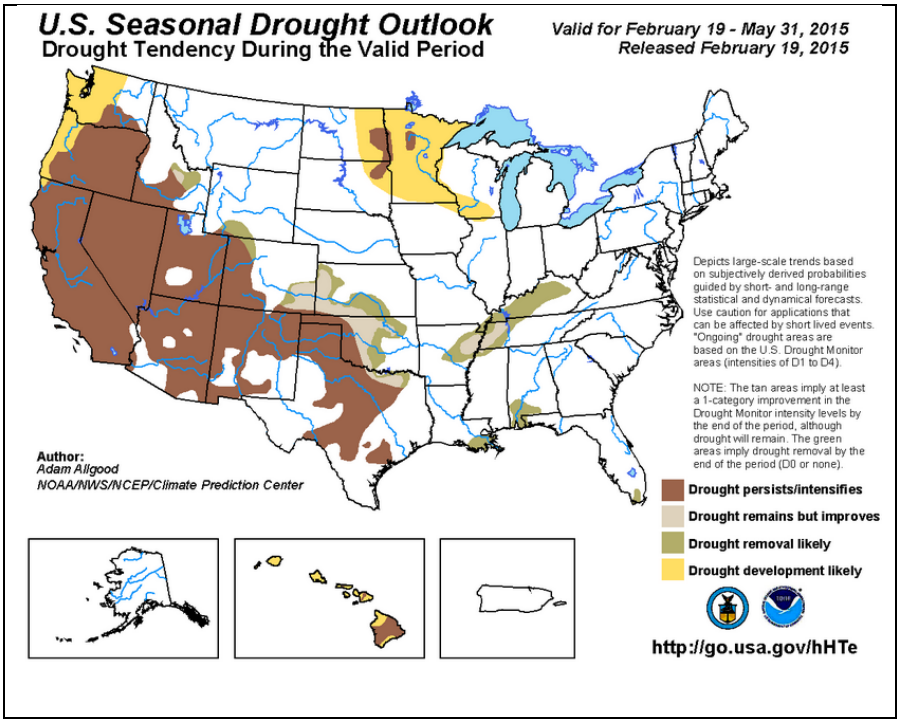
Looking Ahead

The NWS WPC5-Day Quantitative Precipitation Forecast (QPF) calls for light- to-moderate liquid precipitation accumulations (generally less than 2 inches) in the southeastern quarter of the U.S. with greatest accumulations (1 to 2 inches) centered over Arkansas, Tennessee, and West Virginia. The West, Northern Plains, and Upper Midwest are forecasted to be generally dry. The 6–10 day outlooks call for a high probability of above-normal temperatures across the West, High Plains, Upper Midwest, and the Southeast while below-normal temperatures are forecasted for eastern New Mexico, Texas, and the Northeast. A high probability of above-normal precipitation is forecasted across the Pacific Northwest, northern California, and along the southern tier from New Mexico to the Southeast."

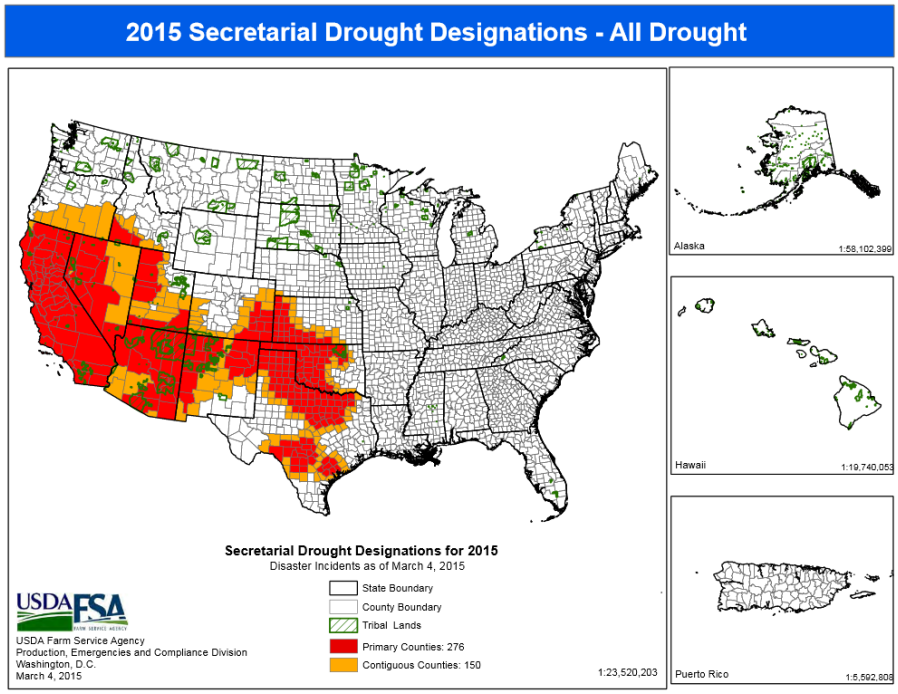
Supplemental Drought Information

National Seasonal Drought Outlook

Nationally, drought is expected to persist or intensify over much of the West and south-central U.S., including California, Nevada, Oregon, Washington, Idaho, Utah, Arizona, New Mexico, Texas, Oklahoma, Nebraska, Colorado, and Hawaii. Improvements are expected in parts of Kentucky, Tennessee, Arkansas, Oklahoma, Nebraska, Texas, and a few smaller areas elsewhere. The areas of drought that are likely to develop further are in the upper Midwest, the Pacific Northwest, and parts of Hawaii.



2015 USDA Secretarial Drought Designations

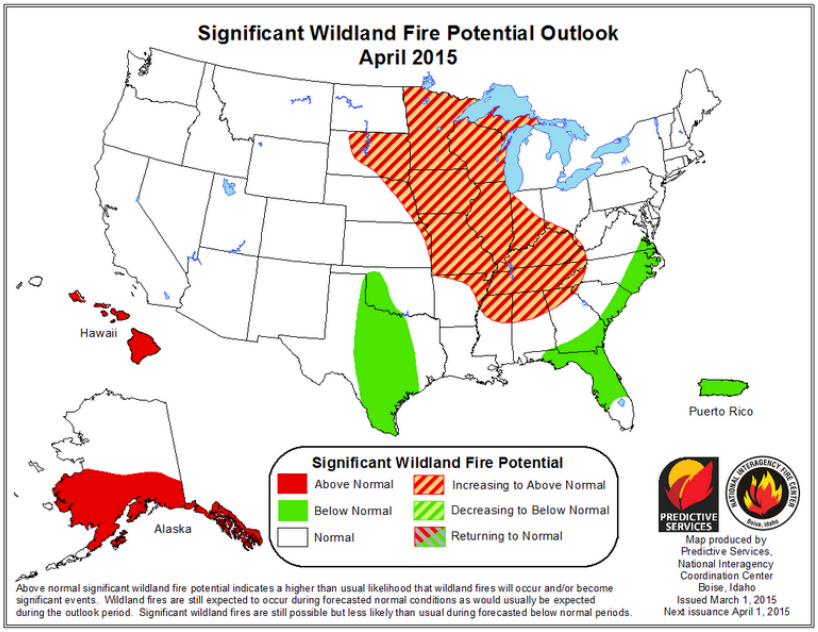


Refer to the USDA Drought Assistance website and National Sustainable Agriculture Information Service.

Read about the new USDA Regional Climate Hubs.

New useful resource: NASS Quick Stats

National Fire Potential Outlook



April Fire Forecast

In April, much of the U.S. has normal fire potential.

A large area of the central U.S. has increasing to above normal fire potential for April. Below normal fire potential for March 2015 (in green on the map) is forecast for Texas and the Southeast to the mid-Atlantic states, and in Puerto Rico.

The southern half of Alaska and most of the Hawaiian Islands have above normal fire potential.

Additional Maps

U.S. Maps PowerPoint presentation: http://dmcommunity.unl.edu/maps/US-Maps.ppt.

Regional zooms of ACIS station data percent-of-normal precipitation: http://dmcommunity.unl.edu/maps/All-CONUS-ACIS-PNP.pptx.

National Water and Climate Center (NWCC) Surface Water Supply Index (SWSI) maps: http://www.wcc.nrcs.usda.gov/wsf/swsi.html

Supplemental Drought-Agriculture News

Download archived "U.S. Crops in Drought" files.

The following is a collection of drought-related news stories from the past seven days or so. Impact information from these articles is entered into the Drought Impact Reporter. A number of these articles will also be posted on the Drought Headlines page at the NDMC website. The list is compiled by Denise D. Gutzmer, Drought Impact Specialist, and National Drought Mitigation Center.

"**California's Central Valley Project initial allocation**
The initial allocation for the federal Central Valley Project is zero percent as the Sierra Nevada snowpack remains thin. Today's announcement is a nightmare for CVP farmers who received no water last year.

Californians increasingly concerned about water supply
Continuing drought and worsening water shortages have Californians more concerned about the state's water supply. More than half of those surveyed were for easing environmental regulations and allowing the construction of water supply facilities in federal parkland. Forty-three percent do not think the state has enough water storage or supply facilities to meet public demand. Most Californians—94 percent—recognize the water situation as serious, while 68 percent of those termed the water shortage as "extremely serious."

Some California HOAs oppose artificial lawns, bill would prohibit penalties for such changes
Despite the epic drought gripping California, many homeowners associations oppose the installation of artificial turf and threaten to fine and take legal action against those who violate HOA standards. The conflict is so common that a bill was proposed to prohibit HOAs from fining residents for putting in artificial lawns.

Tiered water pricing under fire in California
A group of San Juan Capistrano residents sued their water provider, claiming that tiered water rates violate state law which prohibits water agencies from billing customers more than the water cost, regardless of the amount of water used. A lower court ruled in the plaintiffs' favor, and an appeals court will give its decision soon. More than two-thirds of California water agencies use tiered pricing to encourage water conservation.

West Nile virus found in many Orange County mosquitoes
Drought was blamed for the record number of West Nile virus cases in 2014 when nearly 800 Californians were infected, and 2015 is looking like it will bring more of the same. In Orange County, the mosquito count in traps was already hitting July levels.

California water thefts
As the incidence of water thefts climbs in California, most cities are increasing fines for such crimes. If caught, water thieves may face fines, lose their water service and be charged reconnection fees.

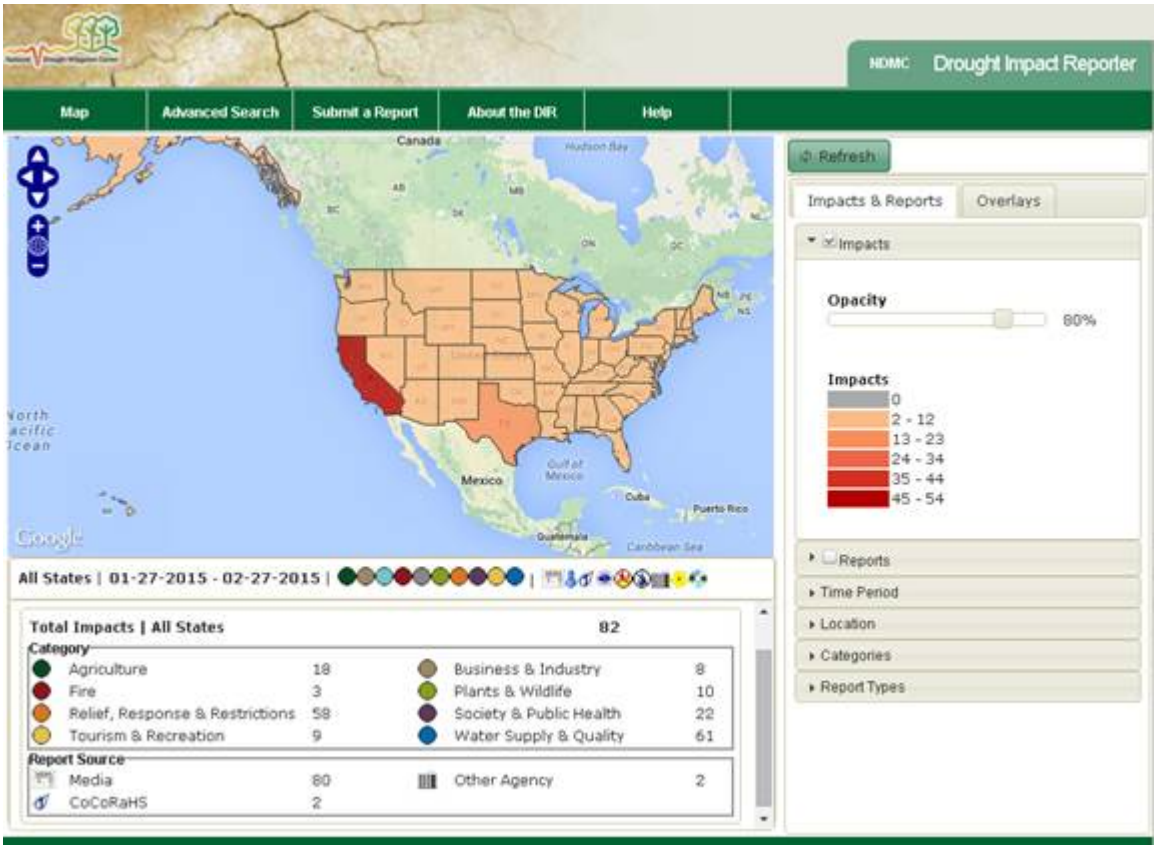
Water conservation urgency hastening meter installation in in Sacramento, California
The Sacramento City Council voted to hasten the installation of thousands of water meters in homes and businesses to better monitor water use. About 74,000 meters were installed during the past decade, and 10,000 meters will be installed by next year. The remaining 51,200 meters will be put in by 2020.

Springs running dry in northern Arizona
Low snowpack amid continuing drought has dried up springs in Grand Canyon National Park and other parts of northern Arizona. As springs stop flowing, ecosystems that support 10 percent of endangered species native to the Southwest, among many other plants and wildlife, could perish.

Stage 3 watering restrictions continued in North Texas
The North Texas Municipal Water District remained in stage 3 watering restrictions through April. The agency's main reservoirs, Lavon Lake and Jim Chapman Lake, were at 53 and 43.7 percent of capacity, respectively.

Drought, lower grain prices hurt Kansas crop values
The value of principle Kansas crops fell to $6.51 billion in 2014 as drought and lower grain prices took their toll. The National Agricultural Statistics Service compared the 2014 figure to previous years' values of $7.85 billion in 2013 and $8.09 billion in 2012. The state's wheat crop was valued at $1.51 billion, corn at $2.12 billion, soybeans at $1.38 billion and sorghum at $755.2 million.

The **Drought Impact Reporter** shows 54 impacts for California and 14 for Texas.

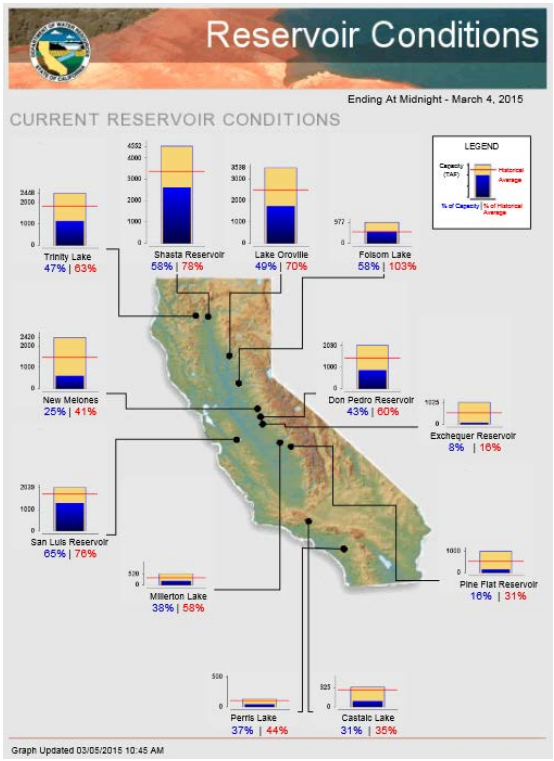


Tea Cup Reservoir Depictions

- http://www.usbr.gov/uc/water/basin/ ← Upper Colorado
- http://www.usbr.gov/uc/wcao/water/basin/tc_gr.html; ← Upper Snake
- http://www.usbr.gov/pn/hydromet/burtea.html ← Upper Colorado
- http://www.usbr.gov/uc/water/basin/tc_cr.html ← Upper Colorado
- http://www.usbr.gov/pn/hydromet/select.html ← Pacific Northwest
- http://www.sevierriver.org/reservoirs/teacup-diagram-of-reservoirs/ ← Sevier River Water (UT)

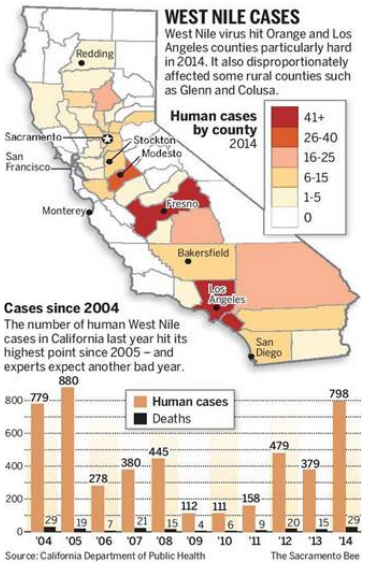
California Reservoir Conditions

[California Major Reservoir conditions from the CA Department of Water Resources]



NEWS - California's drought could mean another bad year for West Nile virus The Sacramento Bee (Calif.) Feb 23, **California**. Drought was blamed for the record number of West Nile virus cases in 2014 when nearly 800 Californians were infected, and 2015 is looking like it will bring more of the same. In Orange County, the mosquito count in traps was already hitting July levels.

When the California drought began in 2012, the number of West Nile virus cases rose to 479 from 158 the previous year. In 2014, 798 cases were recorded, the highest number since 2005, said the California Department of Public Health. Twenty-nine people died.

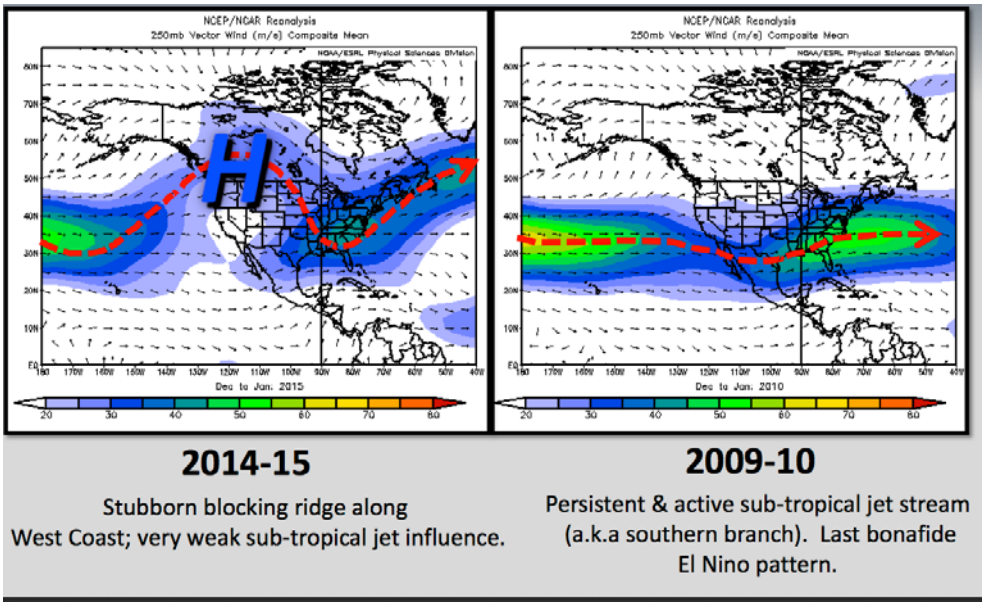


State Activities

State government drought activities can be tracked through their drought plans. NRCS Snow Survey and Water Supply Forecasting (SSWSF) Program State Office personnel are participating in state drought committee meetings and providing the committees and media with appropriate SSWSF information. Additional information describing the tools available from the Drought Monitor can also be found at the U.S. Drought Portal.

Persistent weather pattern dominates the U.S.

Here is a graphic from the National Weather Service on the persistent weather pattern and mean jet stream position that has affected the U.S. for much of this winter. The current year was originally forecast to be in an El Niño pattern, which hasn't occurred. The current year's weather pattern on the left is in contrast to the normal El Niño pattern on the right that occurred in 2009- 2010.



More Information

The National Water and Climate Center (NWCC) Homepage provides the latest available snowpack and water supply information. This document is available weekly. CONUS Water and Climate Updates from 2007 are available online. Reports from 2001-2006 are available on request.

This report uses data and products provided by the Interagency Drought Monitor Consortium members and the National Interagency Fire Center.

/s/

David W. Smith

Deputy Chief, Soil Science and Resource Assessment